



PREVENT STORM WATER CONTAMINATION

Best Management Practices for

Section C - Chemical & Allied Products Manufacturing



SIC Codes: 2812 - 99, 3952 (limited)

General Information:

1) Federal and State Storm Water regulations require the City to reduce the quantity of pollutants that enter our storm drains, rivers, and washes from rain water and other sources. 2) Water from any source that contains contaminants is prohibited from entering the storm drain system which includes streets, pipes, catch basins (street grates), ditches, washes, parks, and rivers. 3) Commercial and industrial wash or wastewater is prohibited from entering the storm drain system, street or any other outside area. 4) All activities that use soap, solvents, degreasers or any other chemical must be hauled to a landfill or discharged into the sanitary sewer through a sand/oil interceptor or approved pretreatment device. 5) City Code 32C requires any person or business that has a "potential" to pollute storm water, to develop and implement a Storm Water Management Plan (SWMP). 6) The BMPs listed here are not inclusive and must be tailored for your facility. See 40CFR122 Section 6.C.4 October 30, 2000 for additional required BMPs.

Housekeeping (at a minimum)

- ◆ Schedule regular pickup and disposal of garbage and wastes.
- ◆ Routinely inspect for leaks from drums, tanks and containers.
- ◆ Keep an up-to-date inventory list of all materials present at the facility.
- ◆ Hazardous material containers will be clearly marked.
- ◆ Maintain clean ground surfaces.
- ◆ Develop and implement a preventive maintenance (PM) program. PM shall include inspection of storm water devices and also includes inspecting and testing other equipment and systems to detect problems.
- ◆ Develop and implement a Spill Control Plan (SCP).

Shipping and receiving

- ◆ Close storm drains during loading/unloading activities in surrounding area.
- ◆ Inspect all containers prior to unloading/loading of any raw or spent materials.
- ◆ Use drip pans when loading/unloading liquid product.
- ◆ Drain hoses back into truck, railcar, etc. after loading/unloading materials.
- ◆ Install high level alarm on tanks to prevent overfilling.
- ◆ Ensure that berms and dikes are built around the unloading/loading areas, if applicable.
- ◆ If outside or in covered areas, minimize run-on of storm water into the unloading/loading areas by grading the areas to insure that storm water runs off.
- ◆ Initiate an inventory control for all raw and spent materials.
- ◆ Confine loading/unloading activities to a designated area.
- ◆ Consider performing loading/unloading activities indoors or in a covered area.
- ◆ Avoid loading/unloading materials in the rain.
- ◆ Inspect the unloading/loading areas to detect problems before they occur.
- ◆ Use dead-end sumps where spilled materials could be directed.
- ◆ Use dry clean-up methods instead of washing the areas down.
- ◆ Train employees on proper loading/unloading techniques and spill prevention and response.

Outdoor material storage

- ◆ Confine storage of materials, parts and equipment to designated areas.
- ◆ Consider secondary containment using curbing, berming or diking all liquid storage areas.
- ◆ Train employees in spill prevention and response techniques.
- ◆ Train employees on proper waste control and disposal.
- ◆ Consider covering tanks.

- ◆ Ensure that all containers are closed (valves shut, lids sealed, caps closed).
- ◆ If outside or in covered areas, minimize run-on of storm water by grading the land to divert flow away from containers.
- ◆ Direct runoff to on-site retention pond.
- ◆ Inventory all raw and spent materials.
- ◆ Store wastes in covered, leak proof containers (dumpsters, drums).
- ◆ Consider shipping all wastes to offsite landfills or treatment facilities.
- ◆ Ensure hazardous waste disposal practices are performed in accordance with Federal, State and local requirements.

Material handling (storage and containment)

- ◆ Provide sufficient containment for outdoor storage areas for the larger of either 10% of the volume of all containers or 110% of the largest tank.
- ◆ Maintain good integrity of all storage tanks.
- ◆ Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- ◆ Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- ◆ Train employees on proper filling and transfer procedures.
- ◆ Store containerized materials (fuel, paints, solvents, etc.) in a protected, secure location and away from drains.
- ◆ Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- ◆ Keep records to identify quantity, receipt date, service life, users and disposal routes.
- ◆ Secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.
- ◆ Educate personnel for proper storage, use, cleanup and disposal of materials.
- ◆ Use temporary containment like portable drip pans where feasible.
- ◆ Use spill troughs for drums with taps.
- ◆ Ensure that areas where liquid or powdered chemicals are stored have berms, dikes or other containment.
- ◆ Make sure outside storage areas for machinery, containers, scrap, pallets, and construction materials have berms, curbs, dikes or other storm water protection.
- ◆ All storage areas must be roofed or covered to protect the contents from wind and rain.
- ◆ Transfer sites from bulk (truck or rail) should have protection such as being located in containment areas or drip pans if not in containment areas.
- ◆ Provide overhangs or door skirts during loading/unloading operations to enclose trailer ends.

- ◆ Consider pumping contaminated storm water from secondary containment to treatment system.
- ◆ Flap valves are not allowed in secondary containment areas.
- ◆ Describe all land erosion practices such as retention ponds or swales.

Material handling (designated material or chemical mixing areas)

- ◆ Mix materials/chemicals in designated areas away from drains, ditches and surface waters. Locate the designated areas preferably indoors or under a shed.

Solid waste (paper, wood pallets, scrap metals, refuse, etc.)

- ◆ Inspect the general area around the solid waste (e.g. look for signs of leaching).
- ◆ Store waste so that it is physically contained (dumpsters, drums, bags).
- ◆ Store waste in an enclosed/covered area.
- ◆ If outside or in a covered area, minimize exposure to storm water by grading the area to ensure that storm water runs "off" and not "on".
- ◆ Ensure that hazardous waste disposal practices are performed in accordance with Federal, State and local requirements.
- ◆ Route trash compactor leakage to treatment system or sanitary sewer.

Improper connections to the storm drain

- ◆ Perform smoke or dye testing to determine if interconnections exist between the sanitary sewer and storm drain systems.
- ◆ Plug all floor drains leading to storm drains.
- ◆ Update facility schematics to accurately reflect all plumbing connections.
- ◆ Offer employee incentives so that employees will develop cost-effective, worker-efficient BMPs.
- ◆ Request outside firm to conduct a storm water inspection/audit.
- ◆ Inspect material transfer lines/connections for leaks or signs of wear and repair or replace as necessary.

Solid storage (silos, holding bins, fiber drums, etc.)

- ◆ Consider vacuum emission control systems for airborne dust and particulate matter.

Waste management (wastewater)

- ◆ Perform treatment processes in-house, if possible.
- ◆ Inspect the outside pipe connections (couplings, valve seals and gaskets, flanges, etc.) of the treatment system for leaks, corrosion and poor maintenance upkeep.

Security

- ◆ Facilities shall have a security system to prevent accidental or intentional entry.
- ◆ The security plan shall address fencing, lighting, traffic control, and securing buildings and vehicles.

Training

- ◆ All employees should be trained in the following areas and on BMPs in the SWMP at least once per year.
 - ◆ Spill response.
 - ◆ Good housekeeping.
 - ◆ Material management practices.
 - ◆ Procedures for equipment and container washing.

Inspections

- ◆ Conduct routine quarterly storm water inspections and within 24 hours after a rain event.
- ◆ Inspect the following areas:
 - ◆ Transfer and transmission lines.
 - ◆ Spill prevention.
 - ◆ Good housekeeping practices.
 - ◆ Management of process waste products.
 - ◆ All areas exposed to precipitation will be visually inspected for evidence of or the potential for pollutants entering the storm drain system.
- ◆ All structural (berms and dikes) and non-structural BMPs will be inspected to ensure they are operating correctly.
- ◆ Complete the BMP checklist during the inspection and maintain it on file for at least three years.

Storm Water Management Plan (SWMP) or Storm Water Pollution Prevention Plan (SWPPP)

- ◆ Develop and implement a SWMP or SWPPP.
- ◆ All Storm Water Plans (SWMP or SWPPP) must be submitted to the City for approval.
- ◆ All regulated facilities (SIC codes) must submit an Industrial Notice of Intent (NOI) to the Arizona Department of Environmental Quality.

If a spill occurs:

- ◆ **Stop the source of the spill immediately.**
- ◆ **Contain the liquid until cleanup is complete.**
- ◆ **Deploy oil containment booms if the spill may reach water or a storm drain.**
- ◆ **Cover the spill with an absorbent material.**
- ◆ **Keep the spill area well ventilated.**
- ◆ **Dispose of clean-up materials properly.**
- ◆ **Do not use an emulsifier or dispersing agent.**

The BMPs found on this page are paraphrased from Federal Storm Water documents 40CFR122, 1995 or later

Storm Water



Management
A member of STORM
Stormwater Outreach for
Regional Municipalities

Only Rain in the Storm Drain!

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City of Phoenix

STREET TRANSPORTATION DEPARTMENT
STORM WATER MANAGEMENT SECTION

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